

PREDICTORS OF INTIMATE PARTNER VIOLENCE AMONG PREGNANT WOMEN- A HOSPITAL BASED STUDY IN ACCRA, GHANA

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Abstract

Introduction: Intimate partner violence in Pregnancy is a serious, preventable public health problem that affects millions of women worldwide. The term describes physical, sexual, or psychological harm by a current or former partner or spouse. It has been associated with death of both mother and baby in the severest forms of physical intimate partner violence (IPV), ante-partum hemorrhage, placenta abruption, premature birth, small for age babies, fetal injury from maternal trauma, spontaneous abortion, still births among others. There is a dearth of published studies focusing on IPV among pregnant women in Ghana.

Methods: This was an unmatched case control study, conducted among pregnant women who visited the Police Hospital for ANC from June to August 2016. We sought to determine the forms of IPV among cases, and identify the associated risk factors.

Results: All three forms of IPV were represented. There was no statistically significant difference between the means of ages of the cases and controls, age of their partners, and duration of relationship. In bivariate analysis, mothers were less likely to be victims of IPV if they had tertiary education, had salaried work or were nulliparous and also if their partners were salaried. They were more likely to be victims of IPV if they took alcohol and if their partners also took alcohol. In the multivariate analysis, however, only partner's alcohol intake was a significant predictor of IPV (AOR 2.12, p value 0.009).

Conclusions: Alcohol use by the partner could be used to screen for IPV among pregnant women in a hospital setting

Key Words: Intimate Partner Violence, Physical assault, sexual assault, verbal/emotional violence.

Introduction

Intimate partner violence (IPV) is a serious, preventable public health problem that affects millions of people worldwide. The term describes physical, sexual, or psychological harm by a current or former partner or spouse. According to Barker¹, worldwide, approximately 1.5 million women are assaulted or raped, and nearly 1,100 are killed by a current or former intimate partner yearly.

Pregnancy Intimate Partner Violence (PIPV) is compounded by the fact that two persons are involved; the pregnant woman and the unborn baby. It is associated with numerous negative consequences, including decreased infant birth weight and increased rates of prematurity². Low birth weight (LBW) and preterm births are leading causes of neonatal morbidity and mortality. Premature and low birth weight infants consume disproportionate amounts of scarce health care resources, and for those babies who survive prematurity

and low birth weight, adverse initial and long-term outcomes are common. PIPV is not routinely screened for at the out-patient's department (OPD), antenatal clinics (ANC) and other consulting rooms.

According to the 2008 Ghana Demographic and Health Survey, almost 35% of women had experienced some form of physical, sexual or emotional violence in the year preceding the survey³. This shows that there is a high level IPV in Ghana, though the survey did not question pregnant women specifically.

There are cultural beliefs in Ghana that tend to justify and therefore perpetuate IPV. The Ghana Statistical Service 2011 Multiple Indicator Cluster Survey (MICS), which was a nationally representative household sample, indicated that 23% of women believe that a husband is justified in beating his wife or partner in various circumstances. As a result, many women who are subject to domestic violence are unwilling to report the crime or access support services and suffer in silence with grave consequences³.

In Ghana, efforts to reduce adverse maternal outcomes of pregnancy among other things has focused on the "three delays model". These are delays in realizing that there is a problem with the pregnancy often at home leading to delay in seeking care, delays in transportation to the health facilities or delay in reaching care in time, and delays in the health facilities itself

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leading to delay in receiving adequate treatment⁴. Somehow, the effect of PIPV in adverse outcomes of pregnancies are not given the due attention.

The long-term sequelae of extremely premature and low birth weight (LBW) infants has been well documented. Such children commonly have cognitive deficits, motor function delays including cerebral palsy, academic difficulties, language delays, and significantly increased rates of attention problems, behavioural difficulties, and psychological problems^{5,6,7}. Physical abuse involving abdominal trauma can lead to premature labour, rupture of membranes, placental abruption, and ruptured uterus, all of which lead to preterm birth or even fetal demise^{8,9,10,11}. In Ghana, more attention is given to diabetes and eclampsia as well as preeclampsia for which pregnant women are routinely screened. There is no systematic screening of PIPV though there is enough evidence that PIPV affects delivery outcomes. In Ghana, there is not much publication associating adverse pregnancy outcomes with pregnancy intimate partner violence.

In the light of the above mentioned, it is necessary that a study be conducted to determine the various forms of PIPV and the possible risk factors. A tool for screening if simple enough could be used to select pregnant women more at risk of PIPV for focused attention and early referral for the required professional help. Also, a study of risk factors could be used to develop policies for prevention of PIPV, advocacy programmes for PIPV in general and lead to effective referrals and interventions.

Hypothesis

1. Pregnant women whose partners take alcohol are two times more likely to be victims of PIPV
2. Pregnant women of low educational status (less than high school) are two times more likely to be victims of PIPV
3. Pregnant women who **witnessed/experienced** physical violence in childhood are two times more likely to be victims of PIPV
4. Adolescent pregnant women (10 to 19 years) are two times more likely to be victims of PIPV

Objectives

- To determine the forms of PIPV that are present among identified cases at the Police Hospital
- To assess risk factors of PIPV among ANC attendees at the Police Hospital

Materials and Methods

Study site

This study was conducted at the Police Hospital, located in the La Dadekotopon Metropolitan Area. Currently over 80% of attendances at the OPD are civilians.

Study design

This was an unmatched case-control study

Study population

The study population was all pregnant women that attended ANC at the Police Hospital from July to September, 2016.

Case definition

A case was an attendant at the ANC that had experienced any of the three forms of PIPV in the current pregnancy and was willing to take part in the study.

Control definition

A control was an ANC attendant that had not experienced PIPV in the current or index pregnancy and was willing to take part in the study.

Inclusion criteria

Included in the study were ANC attendees, that did not have co-morbidities like severe hypertension, severe anaemia, poorly controlled diabetes and antepartum haemorrhage and consented to taking part in the study.

Sample size calculation

Stat Calc from Epi Info version 7 was used for the sample size calculation for an un-matched case-control study. With a two-sided confidence level of 95% and Power at 80%, the ratio of controls was set at 1:1. With the odds ratio set at 2. The percentage of controls exposed to low level of education (below high school level) was set at 26.1%¹². We arrived at a sample size of 302. One hundred and fifty-one being cases, and the same number as controls.

Selection of cases and controls

Cases and controls were consecutively selected. For each case, there was one control. Following the selection of a case, the following consecutive control was also selected. This procedure was followed until the sample size was achieved. From the start of the study, every woman that presented at the ANC was enrolled. If she declined to take part in the study, the next available woman was selected.

This procedure was followed till the required number of respondents was reached for both the cases and controls. One hundred and fifty-three women for each group. In the Police Hospital focused antenatal care is provided in cubicles. From the start of the study, all attendees were informed of the ongoing study. This information was repeated when they got into the cubicles to be seen. A selected case or control was ushered into another room where privacy was ensured. A research assistant explained the essence of the research again, and a consent form was administered.

After this, the structured questionnaire was administered. The hospital's clinical psychologist was on standby throughout the period of the study in his office which was four doors away from the designated research room. There was no need to refer any pregnant woman to him during the period of data collection.

Data capture

Data were captured with a structured questionnaire. The outcome variable was PIPV in any of the three forms. The independent variables at the partner and woman levels examined were the following; Age in completed years, religion, highest level of education **attained**, marital status, highest level of education attained, experience of violence in childhood, profession, **alcohol consumption by pregnant woman as well as the partner**, psychological, physical, sexual assault.

Training of research assistants

Four research assistants who were involved with data collection were trained for one day, to make sure of standardization of information.

Pre-testing of data capture tools

The structured questionnaires were pre-tested **among pregnant women** at the Tesano Depot Police Clinic. This health facility was not part of the study. Necessary re-structuring and re-organisation of the data collection tools was done before the actual collection of data begun.

Data Analysis

Data captured from the structured questionnaires were entered into Microsoft Excel spreadsheet. It was then exported into Epi info version 7 and SPSS version 21 for analysis. Univariate analysis was done by running frequencies, percentages, and means. Bivariate analysis was performed with the use of odds ratios. Multivariate analysis involving the use of binary logistic regression was done to show the relationship between binary dependent and independent variables. P -value < 0.05 with 95 % confidence interval (CI) for OR (odds ratio) was used in judging the significance of the associations. Results were presented in text, tables and charts.

Quality assurance

Data were checked for completeness and internal inconsistencies. Double entry programmes were used to reduce possible data entry errors.

Ethical and legal considerations

Ethical clearance was sought from the ethical committee of the Ghana Health Service. Approval for the study was also sought from the management of the Police Hospital. Consent was sought from the participants of the study, before the questionnaires were administered in the language that the client was comfortable with. Privacy and confidentiality were assured throughout the study period. Since the study involved the recall of unpleasant events, a clinical psychologist was on standby throughout the study period to help respondents when necessary.

Results

Age of cases and controls

The age distribution among cases and controls are depicted in table 1.

Most of the cases and controls were in the 25 to 29 and 30 to 34 age groups as depicted in Figure 1.

Marital status and religious affiliation of cases and controls

Most of the cases as well as the controls were married and living together with their spouses. Seventy-one percent of the controls and **sixty-five percent** of the cases were married. Among cases 34.6% were not married whilst this was 28.9% among controls. Most of the respondents (cases and controls combined) were Christians 266(87.2%). Muslims were 30 (9.8%) with 4(1.3%) being adherents of African Traditional Religion. Five of them (1.6%) had no religious affiliation.

Occupation of cases and controls

Most of the cases were traders 50(32.7%) followed by skilled artisans 47(30.7%), those without any occupation 13(8.5%) and unskilled labourers 4(2.6%). Among the controls however, majority were salaried workers 60(39.2%), followed by skilled artisans 41(26.8%), traders 36(23.5%), no occupation 11(7.2%) and unskilled labourers 4(2.6%)

Alcohol consumption among cases and controls

Among the cases, 23(15.2%) took alcohol as against 13(8.6%) of the controls. Majority of both cases and controls were not taking alcohol.

Witness of assault in childhood among cases and controls

All cases **153 (100%)** had witnessed assault in childhood as against **153 (98.70%)** of controls.

Table 1. Mean, median and mode of the ages of the cases and controls

	Observations	Total of their ages	Mean	Variation	Std. Dev	Min Value	Median	Max Value	Mode
Case	153	4654	30.41	26.69	5.16	17.00	30.00	44.00	28.00
Control	153	4546	29.71	20.86	4.56	21.00	30.00	41.00	30.00
Total	306	9200	30.06	23.82	4.88	17.00	30.00	44.00	44.00

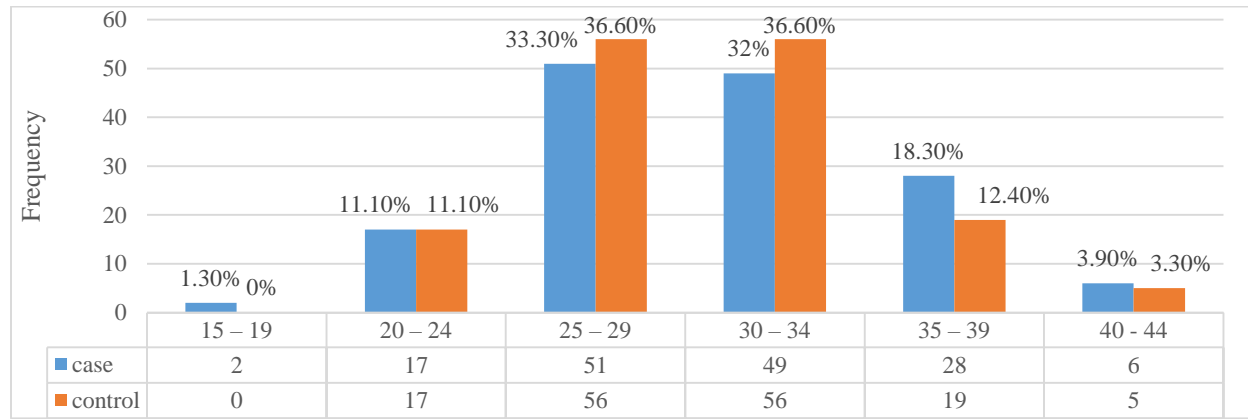


Fig 1. Distribution of cases and controls by age groups.

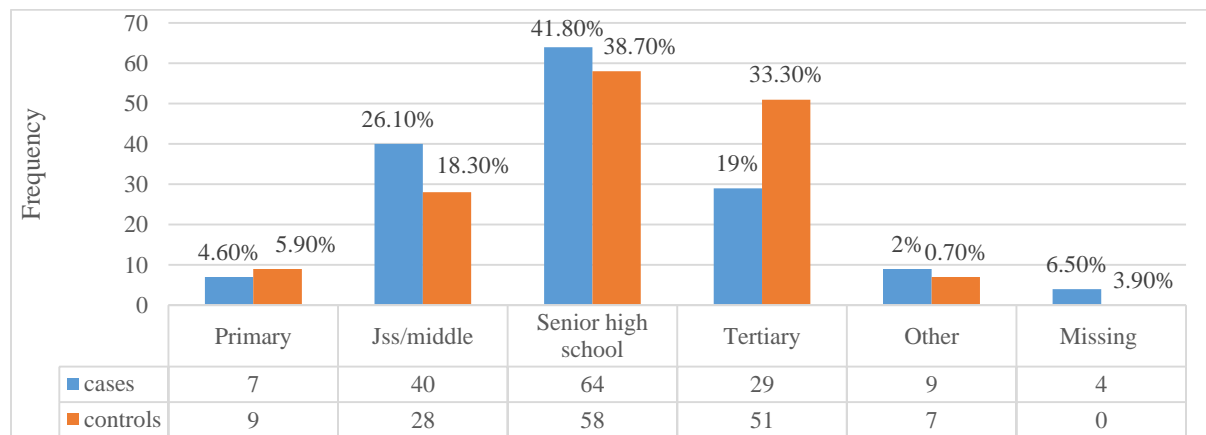


Fig 2. Distribution of cases and controls by educational status

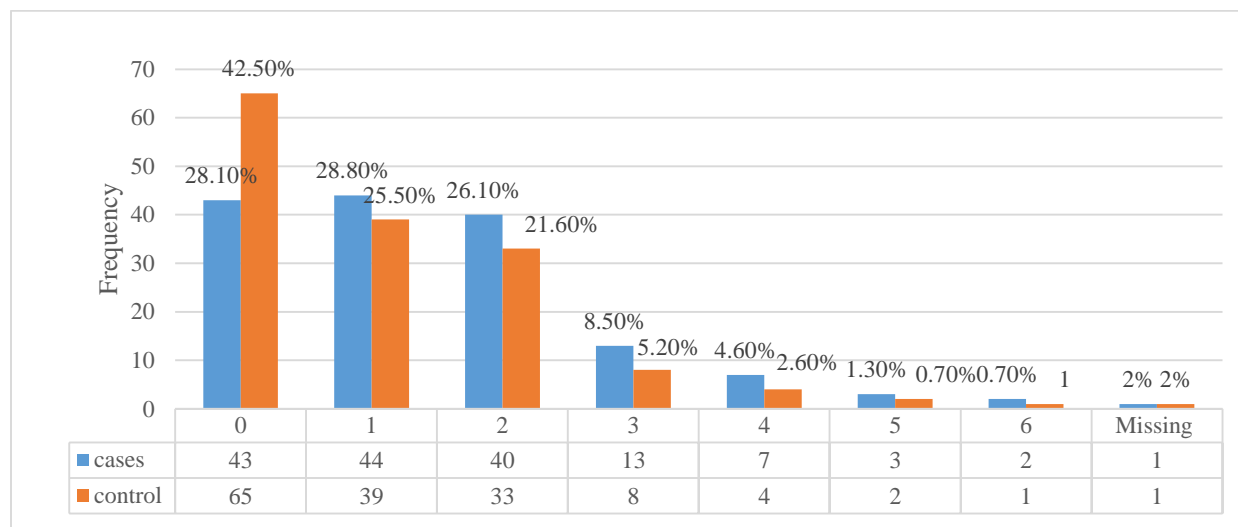


Fig. 3 Distribution of cases and controls by parity

Educational status of cases and controls

As depicted in figure 2, most of the cases 64(41.8%) and controls 58(38.7%) had secondary level education. More of the controls 51(33.3%) as compared to the cases 29(19%) had tertiary level education.

Parity of cases and controls

Most of the cases 44(28.8%) were primips whilst most of the controls 65(42.5%) were nullips. The maximum number of children for both cases and controls were six. This is depicted in Fig. 3.

Types of PIPV among cases

Among the cases, all three forms of IPV were represented. Sixty (39.2%) of the cases had been physically assaulted by their partners.

Forty-one (26.8% n=153) of the cases had been forced to have sex against their will by their partners. Almost all the cases were emotionally assaulted. Of the 153 cases, 136 (88.9%) had been insulted by their partners. Also, 13 (8.5%) were afraid of their partners.

Table 2 Analysis of **discrete** variables of cases, controls and their partners

Parameter	Case (N = 153)	Control (N = 153)	T test	95% CI of Mean Diff.	p-value
Age of women (yrs)	30.42 ± 5.12	29.71 ± 4.57	1.2661	-0.39 – 1.80	0.206
Age of partners (yrs)	35.92 ± 6.51	34.94 ± 5.67	1.4560	- 0.39 – 2.35	0.161
Duration of marriage (yrs)	5.40 ± 4.52	4.55 ± 3.99	1.7845	- 0.11 - 1.81	0.082
Parity	1.38 ± 1.57	1.00 ± 1.22	2.7875	- 0.11 - 0.65	0.006*

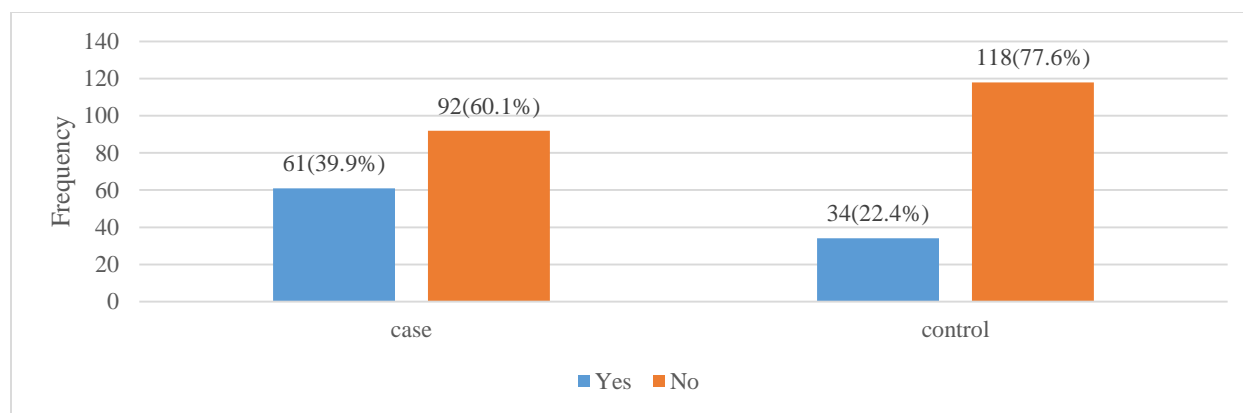


Fig. 4 Distribution of alcohol use among partners

Analysis of discrete variables

As depicted in Table 2, there was no statistically significant difference between the means of ages of the cases and controls, age of their partners, and duration of relationship. However, there was a statistically significant difference p=0.006) between the means of the number of children among the cases and controls.

Alcohol consumption among partners

From figure 4, in both the partners of cases and controls, fewer took alcohol. However, the number that took alcohol among the partners of the cases were more than the partners of controls. 61(39.9%) against 34(22.4%).

Partner’s occupation

Most of the partners of the cases and control were salaried workers. However more of the partners of controls were salaried workers 106(69.3%) as compared

to the partners of the cases 78(51%). One (1) each of the partners of cases and controls did not have any occupation.

Partner’s education

As shown in Fig. 5, all the partners of the cases and controls had some form of education. More of the partners of controls had tertiary education. This was 54(36.5%) for partners of cases and 67(44.7%) for partners of controls. Twenty-five percent of partners of cases had secondary education as against 16% of partners of controls.

Association of social characteristics of cases and controls with PIPV

Risk factors of PIPV are depicted in table 3. Women who had less than twelve years of education were 1.5 times more likely to experience PIPV than those who had twelve years or more of education

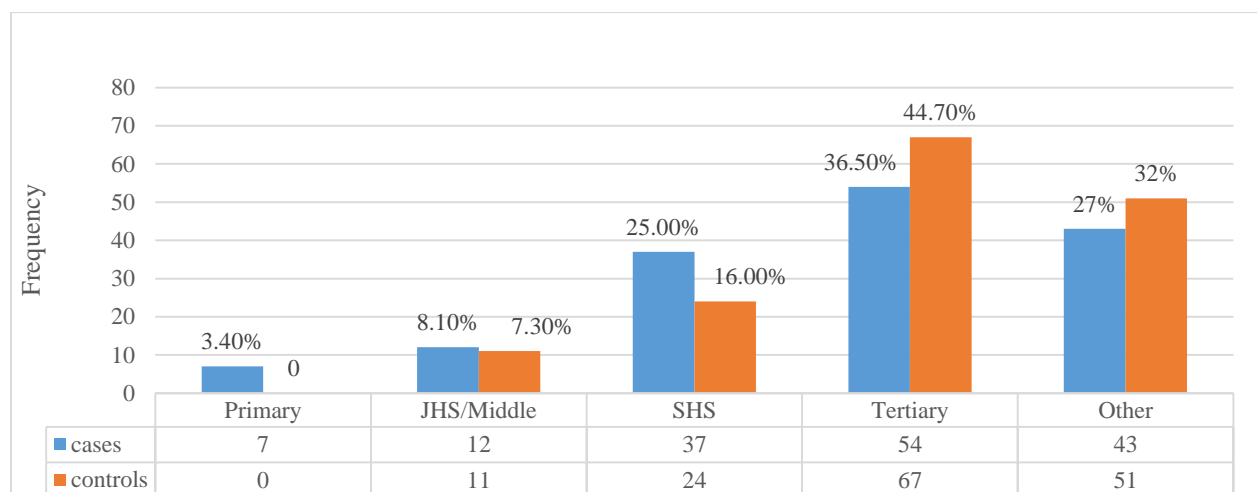


Fig. 5. Educational level of Partners

Table 3. Association of social characteristics of cases and controls with PIPV Risk factors of PIPV

VARIABLE	CASE N (%)	CONT N (%)	CRUDE OR	95% CI	P VALUE
Mothers with <12years of school	43 (33%)	36 (25%)	1.5	0.9038--2.5212	0.0587
More than 12 years	96 (67%)	111(75%)			
Mothers with tertiary education	29(20.28)	51 (34.69)	0.4788	0.2817--0.8140	0.0031*
Mothers without tertiary education	114(79.72)	96(65.32)			
Single mothers	53(34.64)	44 (28.95)	1.3009	0.8022 --2.1098	0.1446
Married mothers	100(65.36)	108(71.05)			
Salaried mother	38(24.84)	60(39.22)	0.5133	0.3139 - -0.8358	0.0036*
Non-salaried mother	115(75.16)	93(60.78)			
Nulliparity mothers	43(28.10)	65(42.48)	0.5292	0.3286--0.8523	0.0044*
Non Nulliparity mothers	110(71.90)	88(57.52)			
Mothers 19yrs or less	0	0	-	-	-
Mothers >19 years	153(100)	153(100)			
Mother witness of beating in childhood	153(0)	148(97.37)	-	-	-
Not witnessing	0(0)	4(2.63)			
Mother beaten in childhood	153(100)	151(98.69)	-	-	-
Not beaten	0(0)	2(1.31)			
Mother's taking alcohol	23(15.23)	13(8.55)	1.9213	1.3401---3.9520	0.0379*
Not taking alcohol	128(84.77)	139(91.45)			
Salaried Partner	78(50.98)	106(69.28)	0.4611	0.2890--0.7359	0.00056*
Non-salaried partner	75(49.02)	47(30.72)			
Partners drinking alcohol	61(39.87)	34(22.37)	2.3012	1.3953---3.7950	0.0005*
Not drinking alcohol	92(60.13)	118(77.63)			
Tertiary education of partner	40(27.03)	48(32.00)	0.7870	0.4777---0.4761	0.1753
Partner without tertiary	108(72.97)	102(68.00)			

This finding was however not statistically significant (OR 1.5, CI 0.9038 - 2.5212, P value >0.05). Tertiary education of women was found to be protective. Women who had tertiary education were 48% less likely to be a victim of PIPV as compared to their counterparts without tertiary education. This finding was statistically significant. (OR 0.48, CI 0.2817 - 0.8140, P value <0.05). Single mothers were 1.3 times more likely to be victims of PIPV as compared to married mothers. This finding was however not statistically significant (OR 1.3, CI 0.8022 -- 2.1098, p value >0.05). Salaried mothers were 51% less likely to be victims of PIPV as compared to their non-salaried counterparts. This finding was statistically significant (OR 0.51, CI 0.3139 - 0.8358, p value <0.05). Pregnant women who had never given birth (primips) were 53% less likely to experience PIPV as compared to those who had previous births. This was statistically significant (OR 0.53, CI 0.3286 - 0.8523, p value <0.05). Effect of adolescence on being a victim of PIPV could not be assessed because of small numbers. The same was found for mothers who either experienced or witnessed physical assault in childhood. Mothers who took alcohol were 1.9 times more likely to be victims of PIPV as compared to those who did not take alcohol. This finding was statistically significant (OR 1.9, CI 1.3401 -3.9520, p value <0.05).

Women who had salaried partners were 46% less likely to be victims of PIPV as compared to those whose partners were not salaried workers. This was statistically significant (OR 0.2890 -0.7359, p value <0.05). Women whose partners took alcohol were 2.6 times more likely to be a victim of PIPV. This was statistically significant (OR 2.3, 1.3953 - 3.7950, p value <0.05). Women whose partners had tertiary education were 78% less likely to be victims of PIPV. This finding was however not statistically significant (OR 0.78, 0.4777 - 0.4761, p value > 0.05).

Binary Logistic Regression

Results of Binary logistic regression are shown in table 4. Binary logistic regression was employed in order to examine the extent to which the independent variables were associated with the dependent variable (PIPV). The output below shows the odds ratio and standard error for all the independent variables for which the bivariate analysis showed significance. Controlling for all other variables in the model, only one variable was a significant predictor of PIPV. After adjustment of the odds ratios, only partner’s alcohol consumption was significant. AOR 2.12, p value <0.05.

Table 4. Table of Binary Logistic Regression of significant variables.

Variable		B	S.E.	Wald	OR	P value
	Mothers with tertiary education	-.280	.330	.717	.756	.397
	Salaried mothers	-.402	.314	1.631	.669	.202
	Nulliparity	-.561	.411	1.863	.571	.172
	Salaried partner	-.513	.270	3.611	.599	.057
	Partner drinking alcohol	.753	.286	6.908	2.123	.009*
	Mother drinking alcohol	.137	.413	.111	1.147	.739
	Parity	.011	.183	.003	1.011	.954
	Constant	1.274	1.184	1.158	3.574	.282

Discussion

Pregnancy intimate partner violence is a serious public health issue that could end with dire consequences for both mother and baby. A lot of studies have been done outside of Ghana concerning this matter. However, in Ghana most of the studies do not refer to pregnant women specifically, though there are studies on domestic violence as well as partner violence. Majority of these studies focused on the community with the 2008 GDHS as the main source document. This is the first time that a study focused on factors influencing the occurrence of PIPV has been done in a Hospital setting to the best of my knowledge.

In this study, women who had less than twelve years of education were 1.5 times more likely to experience

PIPV than those who had twelve years or more of education. This finding was however not statistically significant (OR 1.5, CI 0.9038-- 2.5212, P value >0.05). Women with less than 12 years of education are likely not to have completed Senior High School and may not be earning enough money and thus may not contribute financially to the upkeep of the home. Their increased reliance on their partners for their needs may lead to PIPV. Saltzman et al.,¹³ also reported an increase in physical violence in pregnant women who had less than 12 years of education. It is noteworthy however, that their study was a population based one which involved 16 states in USA whilst this study measured all forms of violence and not physical violence in isolation. Again,

this study was a hospital based one and not population based.

In keeping with previous findings, tertiary education of women was found to be protective against PIPV in this study. Women who had tertiary education were 48% less likely to be a victim of PIPV as compared to their counterparts without tertiary education. This finding was statistically significant. (OR 0.48, CI 0.2817-- 0.8140, P value <0.05). Women that are highly educated are prized by their partners because they would probably be bringing in income and help in the running of the home or be contributing to the economic welfare of the home. Our finding is less than that found in a study involving postgraduate female students in Ibadan¹⁴ where postgraduate students were 64% less likely (95% CI 0.46-0.87) to suffer partner violence. That study was not done in pregnant women, and was a cross sectional study. However, the risk factors for IPV are mostly similar to that of PIPV.

In this study, single mothers were 1.3 times more likely to be victims of PIPV as compared to married mothers. This finding was however not statistically significant (OR 1.3, CI 0.2817-- 1.8140, p value >0.05). The value placed on single women by their sexual partners is usually less than that placed on married women. In Ghana bride price is usually paid to the woman's family to seal the marriage union. In such cases, it is said that the family of the woman will have a lot of questions to ask the husband if something untoward happens to their daughter. Because of this, if there is no bride price paid for a woman before she gets pregnant, then the society looks down on such a woman and the partner does not place a high value of the woman hence maltreatment. Studies done elsewhere by Saltzman et al¹³ showed a far bigger risk of four-fold increase in PIPV risk as compared to married women. Whilst the present study was hospital based, that was a population based study involving 16 states in the United States, that focused on physical violence alone during pregnancy. There is however a different finding by Tanimu et al¹⁵ in Kano Nigeria. They found that being married ($X^2 = 24.72$, p value = 0.00) increased the likelihood of IPV. His study though hospital based was a cross-sectional one, and they interviewed women aged 15 to 49 who had ever been in an intimate relationship but was not pregnant. Also, socio cultural differences between the two countries could account for their different finding.

Salaried mothers were 51% less likely to be victims of PIPV as compared to their non-salaried counterparts. This finding was statistically significant (OR 0.51, CI 0.3139 - 0.8358, p value <0.05). Women who had salaried partners were 46% less likely to be victims of PIPV as compared to those whose partners were not salaried workers. This was statistically significant (OR 0.2890--0.7359, p value <0.05). It appears in our study that salaried work on the part of partner and pregnant women were both protective against the occurrence of PIPV. Socio-economic status has been shown to be

protective against partner violence. This may be because partners might be receiving salaries at the end of each month and this could alleviate the economic hardship in the home. Salaried couples may also be educated and this could also play a part in this finding. Studies that are population based, in Chile, Egypt, India and the Philippines¹⁶ demonstrated that socioeconomic indicators were the most commonly and universally predictive factors of PIPV.

Pregnant women who had never previously given birth (nullips) were 53% less likely to experience PIPV as compared to those who had previous births (OR 0.53, CI 0.3286--0.8523, p value <0.05). Though this finding was not statistically significant, it indicates that women could be less prone to being victims of PIPV when they are carrying their first pregnancy. In Iran¹⁷, Farrokh-Eslamlou et al found that PIPV was significantly associated with a gravidity of two. Makayoto et al¹⁸, reported that women who experienced PIPV were more likely to be multiparous (OR 1.94, 95% CI=1.01-3.32). The differences could be due to the fact that the study designs were different and the parity variables were stated differently.

Effect of adolescence on being a victim of PIPV could not be assessed because of small numbers. This could be because of the fact that this study was based in the Police Hospital in Accra. The insufficient numbers could be that they were reluctant to attend ANC at the hospital because of perceived fear of arrest or harassment. The other reason could be the location of the hospital in a very urban setting, where such incidences might be rarer than in the rural areas. Because of education, most girls in the urban centers will be in school at that age, received education about contraceptive use and might not get pregnant though they may be engaging in sexual activities. Furthermore, the shame of dropping out of school might deter some of the adolescents from engaging in sex entirely. In a National survey in the United States¹³, there was almost a double risk of PIPV for women under 20 years of age. That was a national survey so the possibility of getting sufficient numbers of adolescent mothers was higher. The social and cultural dynamics are quite different for the two countries.

The same was found for mothers who either experienced or witnessed physical assault in childhood. The effect of experiencing or witnessing violence as a child could not be assessed as a factor of PIPV because almost all the respondents had experienced same in childhood. In Ghana in almost all cultures, child beating is a normal occurrence as well as witnessing it since its quite common. This is in stark contrast with what pertains elsewhere, such as Kenya, where in a cross sectional study of 300 pregnant women, those who experienced PIPV were more likely to have witnessed maternal abuse in childhood (aOR 2.27, 95% CI 1.05-4.89)¹⁸.

In this study, mothers whose partners had tertiary education were 78% less likely to be victims of PIPV.

This finding was however not statistically significant (OR 0.78, CI 0.4777--0.4761, p value > 0.05). Makayoto et al¹⁸, reported an adjusted OR of 0.37, (95% CI =0.16-0.83). Their study, though hospital based, was cross sectional. It is believed that though cultural influences are present, high level of educational achievement inhibits men from perpetrating PIPV. Our finding is in consonance with that reported by Owusu Adjah et al.,¹⁹ using the 2008 GDHS, women whose husbands had higher than secondary education were 48% less likely to experience domestic violence. They used a nationally representative sample that was mainly community based. Also, they researched domestic violence and not PIPV specifically.

Mothers who took alcohol were 1.9 times more likely to be victims of PIPV as compared to those who did not take alcohol. This finding was statistically significant (OR 1.9, CI 0.9340--3.9520, p value <0.05). Alcohol could inhibit as well cause a derangement in thought of the women. They may be more violent when drunk as opposed to when sober. This increase in likelihood of being a victim of IPV when a woman takes alcohol was also demonstrated in a cross sectional study of post graduate female students in Ibadan, Nigeria¹⁴ where students who drank alcohol were more likely to suffer IPV (OR 2.40, 95% CI 1.82-3.06). It is understood that post graduate female students might drink more alcohol than pregnant women and this could explain the differences in the Odds ratios. Also, the study design as well as possible socio-cultural differences between Ghana and Nigeria could explain the difference.

Women whose partners took alcohol were 2.6 times more likely to be a victim of PIPV. This was statistically significant (OR 2.3, 1.3953--3.7950, p value <0.05). In logistic regression, this was the only significant predictor of PIPV. This finding is in agreement with several studies irrespective of the study design. In a cross sectional hospital based study among women who had ever been in an intimate relationship in Kano by Tanimu et al.,¹⁵ alcohol consumption by partner was found to increase the likelihood of IPV (OR 2.3, 95% CI 1.151-3.230 p value = 0.00). In another study in Kenya¹⁸ among 300 randomly selected pregnant women, having a partner who drank alcohol increased the likelihood of PIPV (aOR 2.32, 95% CI =0.16 – 0.83). Alcohol is widely considered to be a key proximal predictor of IPV because of the hypothesized dis-inhibitory effect on aggression²⁰.

Conclusion and Recommendations

In the case control arm of this study, all the forms of PIPV were identified among the cases. In bivariate analysis, women who were less likely to be victims of PIPV had tertiary level education, were salaried, nulliparous and had partners who were also salaried. Women who took alcohol and those whose partners took alcohol were more likely to be victims of PIPV. However, in the logistic regression analysis, only

partner's alcohol intake was a significant predictor of PIPV. This study therefore confirmed only one of the four hypotheses that pregnant women whose husbands took alcohol were twice more likely to be victims of PIPV.

Pregnancy intimate partner violence is a complex issue in Ghana. From this study, it has emerged that more research needs to be done to identify more characteristics of pregnant women that make them prone to it. This study has contributed towards this goal.

Recommendations

We recommend the following;

TO THE OBSTETRICS AND GYNAECOLOGY DEPARTMENT, POLICE HOSPITAL

1. Antenatal attendees must be encouraged to disclose PIPV through health talks.
2. Partner's alcohol use could be used to screen for PIPV.
3. Partners of pregnant women must be educated on the consequences of taking alcohol on the mother and baby.

TO THE GHANA HEALTH SERVICE

1. They **could** commission a multi-center nationwide study to determine the prevalence of PIPV among pregnant women in Ghana. This study could also attempt to identify the effects of PIPV on mother and baby in Ghana.
2. The GHS **could** train nurses on various aspects of PIPV and their role in its identification and prevention.
3. Information about PIPV **could be** put on the ANC card.
4. The service **could** enact a policy of including fathers in educational sessions for pregnant women, stating the role of alcohol consumption in PIPV.

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